

Unit 2

Argument Evaluation

Introduction

Once you have identified an argument and analysed it into its premises and conclusion, you can go on to evaluate it: to say to what extent it is a good argument or a bad argument. Naturally enough, this process raises a number of questions, such as; what makes something a good argument, after all? In this unit, these questions get some preliminary answers.

Learning objectives

When you have completed this unit you should be able to:

- state the basic theory of good arguments; and
- differentiate the qualities of basic arguments that are clearly good or clearly bad.

Assigned reading

No new readings.

How to proceed

1. Read the study notes for unit 2.
2. Do the self-test exercises as you come to them. Answers are in the Answers to practice exercises section.
3. Go back to the three arguments you identified in the excerpt from Jared Diamond's *Guns, Germs and Steel*.
 - Determine whether they are good arguments, bad arguments, or somewhere in between.
 - Justify your views in detail.
4. Once you have thought about these questions, submit your answers by clicking on **course discussion** on the course web site and compose your message. Fellow students will give feedback, and perhaps ask questions. In addition, your instructor will respond to comments from students, and may ask for clarification on student views stated in the discussion.

Study notes

What makes a good argument? To answer this question, it is necessary to make the question clearer. What sort of standard do we have in mind here? If my only purpose in making an argument is to make you laugh, and your only purpose in listening to my argument is to have a laugh, then a good argument will be one that is very silly, or otherwise humorous. If my only purpose in making an argument is to cheat you out of your money, then as far as I am concerned, my argument is good if it works to cheat you. And so on.

Now, obviously, the standard of goodness for arguments in this course is not going to be how funny or deceptive the argument is because this is a course on critical thinking. The argumentative intentions that are relevant to this course are the ones that are relevant to critical thinking in general. Since a critical thinker is one who only believes an argument's conclusion when it is rational to do so, a good argument must simply be one that makes it rational to believe in the conclusion.

For example, you probably have no opinion about where the word "geyser" comes from. But there is an argument that it comes from the Icelandic language. Here is that argument.

Premise 1 There are several geysers in Iceland.

Premise 2 The one that used to be the largest and most impressive has an Icelandic name.

Premise 3 That name is "Geysir".

Premise 4 An Icelandic told me that this name was adopted by English as the name of all objects of the same type.

Premise 5 That Icelandic is a very knowledgeable person.

Conclusion The word "geyser" comes from the Icelandic language.

This argument is not very funny, or, for that matter, amazingly interesting. But it *does* make it rational for you to believe the conclusion. And so, as far as critical thinking goes, it is a good argument. Or at least, this is a good initial theory of good arguments. In unit 4, this theory will be refined somewhat. But it will do for now.

A good (for our purposes) argument is one whose premises make it rational to believe the conclusion.

Evaluating arguments: Rational premises

There are several features that should be noted about the evaluation of arguments. The first is that, for the purposes of a course on critical thinking, the *only* standard that is relevant to the evaluation of arguments is whether the argument makes it rational to believe the conclusion. It is not relevant whether or not the argument is interesting. An argument can be good (for our purposes) even if it is dull. It is also not relevant whether or not the argument is clever. The most obvious argument in the world will still be a good argument (for our purposes) as long as the argument's premises make it possible for a rational person to believe the conclusion. Even an argument as silly as:

Premise 1 This bit of grass is grass.

Premise 2 This bit of grass is in Canada.

Conclusion Canada contains grass.

is still a good argument, because the premises are good rational reasons to believe the conclusion.

An important variation on this theme is that an argument can be a good argument (for our purposes) even if it is confusing. Consider the following argument:

Premise 1 Vascular dilation varies with ion concentration.

Conclusion Vascular dilation varies with something.

Perhaps you do not understand this argument. It contains words that are unfamiliar to many people. (And if you know what all the words mean, just imagine a different and more confusing example.) So you might say that, if someone wanted you to believe the conclusion, that person should have explained what it meant, and should have explained what the premise meant, too. But that very reasonable complaint nonetheless has nothing to do with whether or not you can rationally believe the conclusion. Assuming that you trust the person making the argument not to lie to you about the premise, you can see that the conclusion is clearly true without even knowing what it means. And for that reason, the argument counts as a good one (for our purposes), because making it possible to rationally believe the conclusion is all that there is to a good argument.

One more related point: an argument does not have to actually convince anybody in order to be a good (for our purposes) argument. An argument that is too confusing to convince anybody, or an argument on a controversial topic that just does not convince anybody, can still be a good argument. *Good arguments are not the same as arguments that actually convince people.* For our purposes, what is important is not whether people actually believe the conclusion of an argument. What matters is whether the premises of the argument make it rational to believe the conclusion. People are not always rational. Thus, whether or not people actually accept the conclusion guarantees nothing about whether the argument is a good one for critical thinking purposes. Some arguments convince people very effectively by playing with their emotions, while some arguments fail to convince people only because they do not play with emotions enough. And so on. These are factors that have nothing to do with the quality of the argument in the sense of interest to us.

Note: So far, we have talked about an argument being good for our purposes, rather than simply good. This is very important for clarity. After all, there are many ways to evaluate arguments, and only one way that is relevant to a course on critical thinking. But it is also a little awkward to always be adding “for our purposes” to everything. So from here on, I will simply write about arguments as being good or bad, better or worse, without adding “for our purposes.” I will just assume that you know I mean better or worse for our purposes: for purposes of enabling rational belief in the conclusion.

So an argument is excellent if it makes it possible to rationally believe the conclusion, and less than excellent if it fails to some extent to do so. How should you go about evaluating arguments in practice? How can you tell if an argument's premises support rational belief in its conclusion? As with argument interpretation, there is no algorithmic procedure for argument evaluation. After all, you cannot accurately judge whether or not conclusions are rationally supported in every case unless you are perfectly informed and perfectly rational, and we are never either one. Thinking about such problems, some people might be tempted to give up on the whole project of evaluating arguments. “It’s too subjective,” they might say. But these same people still try to figure out what their romantic partners are thinking or what they mean by various actions, or they try to determine which political party is

most likely to represent their visions of good government given each one's public record, or in a hundred other ways act as though they believe that difficult interpretative and evaluative tasks are possible, and in fact worth doing. The fact that argument interpretation and evaluation require non-quantitative judgments, the quality of which it may be difficult or impossible to check, does not show that they are any more problematic activities than many of the others we engage in all the time.

Rational beliefs

Even with our limitations in mind, there are still many things that can be said about how to determine which arguments are better and which arguments are worse.

First, something can be said about rational belief. What is it? This question, like so many other philosophical questions, is a controversial one. Here is a rough answer. Refinements will follow later.

A rational belief is a belief (or thought) a person holds that is consistent with all the evidence that person has.

This is pretty much the everyday notion of rational belief. Rational beliefs (also known as reasonable beliefs, or justified beliefs, or just plain sensible beliefs) are the ones that do not contradict the believer's evidence. If I believe that you are a student, and my other relevant beliefs about you are that you are around the university for most of the school year, that you are a regular participant in my class, that you show up as a registered student on the university computer, and so on, then my belief that you are a student is obviously a rational one: it is consistent with my evidence. If, on the other hand, I had all the same evidence but I believed that you were an agent for the CIA, then that would be an irrational belief. My beliefs about the CIA (that it is not interested in my university or myself, for example) and about you (that you do things suggesting you are a full-time student, etc.) are not consistent with believing that you are a CIA agent.

Consistency

The central idea of rationality is that of consistency. Being consistent, at least as philosophers think about consistency, is a matter of not contradicting yourself. Note that being consistent does not require being simple. It is perfectly consistent to believe that only children should like Jell-O while also believing that *Coraline*, a book written for children, is an excellent book for adults too. It is consistent because these beliefs do not actually contradict each other: there is no impossibility in them both being true beliefs. It is perhaps unusual to be biased against some things for children while thinking other things for children are excellent, but there is no direct clash requiring that at most one belief can be true. It could just be true that Jell-O is not good for adults, but *Coraline* is. On the other hand, it would not be consistent to believe that *Coraline* is an excellent book and to believe that every excellent book uses a large and complex vocabulary. This would not be consistent because *Coraline*, being a children's book, does not use a large and complex vocabulary. If I had these two beliefs, I *would* be contradicting myself.

It is easy to see inconsistency in other people, but harder to see it in ourselves. However, the following example reveals to many people that they are inconsistent in their beliefs. Consider the following three sentences:

1. Love is a feeling.
2. Even while people are deeply asleep, they still love their families.
3. While deeply asleep, people do not feel anything.

Many people believe all three sentences, but there is no way all three sentences can be true. So most people are inconsistent on the subject of love. That is, they have irrational beliefs about love. Well, perhaps that is not so surprising, since the topic of love is a very confusing one. But it provides a good example of inconsistency in everyday life.

Practice exercise 3

Review the following sets of statements. Determine whether a normal university student could consistently believe them. Answers are in the Answers to practice exercises section.

- a. Ancient alchemists discovered a few things not known to modern science.
- b. No grocery store in town carries Capsicum Carnival ice-cream. Capsicum Carnival ice-cream can be purchased in town.
- c. God is all-powerful. There is nothing God can do to prevent genocide without affecting people's free wills. Everyone has free will.
- d. I have an opportunity to make a lot of money. Amethyst is a semi-precious stone. I have just discovered a huge deposit of amethyst.
- e. By far the most important features in buying a car are reliability, fuel economy, and ease of maintenance. Of course, personal enjoyment should also be taken into consideration. The right car for me is a '66 Mustang convertible I just came across—a little expensive, maybe, but very cool indeed!
- f. The Mayor and City Council have been saying that something must be done to make the downtown more appealing. The city will do something to improve the downtown.
- g. Vancouver is a great city to live in. My friend Janet lived in Vancouver for a year and said it was rotten. Janet generally has opinions I agree with when it comes to which cities are cool and which aren't. The only disagreement Janet and I have had about cities other than Vancouver was over Halifax, and I know she only hated it because she was staying with my idiot cousin when she visited there.
- h. Capitalism is better than government intervention in the economy for providing goods and services. Capitalism is a fairer system of trade and exchange than diluted versions of it that mix in government intervention. Canada would not benefit from a more capitalistic system of health care.
- i. Jerusalem is a holy city. Jerusalem has been the site of fighting, massacres, sieges, intolerance, and violence of all kinds for hundreds and hundreds of years.

- j. Healthy food is the best food to eat for pretty much everyone. Fattening foods such as red meat, olive oil, butter, and peanut butter are unhealthy. More people go hungry or die of starvation every day than have any problems with excess body fat.

Rationality and truth

It is important to say that rational beliefs are not always true, and irrational beliefs are not always false. For instance, a thousand years ago, many people thought that draining blood was a good way to treat many illnesses. Needless to say, this was false. But what evidence did they have? Well, experts said it was a good treatment. And often, sick people who had the treatment did get better. And people who could afford to go to blood-letters generally did. People did not have access to the statistical information that would have shown that bleeding was not more effective than doing nothing. People did not have access to information about the uses of blood or the causes of disease. Their beliefs were thus perfectly consistent with all the evidence they had: false, but rationally believed anyway. And similarly, we might *irrationally* believe something that is nonetheless true: we might believe the truth by coincidence. For example, while having evidence that there are no poisonous snakes in my local park, we might still worry about them. Our irrational belief that there are snakes in the park might be made true one day, if someone's pet rattlesnake escaped into the park, but unless we heard about the escaped snake, our belief would still be irrational. Rationality has nothing particularly to do with truth. Rationality is rather all about consistency: about not contradicting the evidence you have available to you.

So, when considering whether or not an argument is one whose premises make it possible to rationally believe the conclusion, you have to consider whether or not the person listening to the argument would be drawing a conclusion consistent with his or her evidence by accepting the conclusion. There is no simple test for whether or not this is the case, because there is no simple test for whether or not someone is being rational. But by using your common sense, you can say some sensible things here.

Imagine that your friend Albert makes the following argument to you one day:

You know, there used to be a lot of hype about oat bran being healthy. Now it seems that was wrong. Cholesterol used to be bad, now there is good and bad cholesterol. The Canada Food Guide says grains are good, but the Zone diet people say that protein is good and grains are bad. It seems to me that the only reasonable conclusion is that you should eat whatever you want and not listen to what "experts" say.

Albert's argument has the following structure:

- Premise 1 There used to be a lot of hype about oat bran being healthy.
- Premise 2 Now it seems that the hype was wrong.
- Premise 3 Cholesterol used to be said to be bad.
- Premise 4 Now it is said that there is good and bad cholesterol.
- Premise 5 The Canada Food Guide says grains are good.

- Premise 6 The Zone diet people say that protein is good and grains are bad.
- Conclusion You should eat whatever you want and not listen to what “experts” say.

Now, even though you do not have a simple system for determining what is rational and what is not, you can still say quite a bit about what is wrong with this argument. This argument should not convince you, because your evidence is not consistent with it. For instance, you believe that there are some things that almost all experts agree are unhealthy, like consuming half a litre of cream every day, and the experts seem to have a good point, given what you believe about the way cream leads to body fat, and the way excess body fat leads to circulatory problems. Furthermore, you probably believe that some of the hype Albert is referring to is probably not coming from genuine experts, but instead from self-interested promoters of commercial products. Perhaps you believe that it is better to listen to fallible experts than to be guided by your own tastes, which are obviously not expert at all, since then you at least have a chance of getting good guidance. Whatever exactly you believe, your beliefs are not consistent with Albert’s conclusion, and his premises do not contain enough new evidence to change what it is rational for you to believe. So Albert’s argument is not a good one.

How would you go about answering Albert? Something like the following paragraph would be a good answer.

Even after listening to Albert’s argument, the evidence available to me still does not support accepting his conclusion. He says that you should eat whatever you want. But clearly some things that we want are not healthy for us, even if experts are sometimes confused about the healthiness of some things. For example, sometimes I feel like drinking beer until I start vomiting. That isn’t a healthy thing to do. And if I felt like sitting on the couch eating French fries all day that wouldn’t be healthy either: as far as I can tell, that would make me very fat, and being very fat seems to lead to heart disease and other problems. So even if you cannot always follow expert opinion, still, Albert is not convincing when he says that you should just eat whatever you want.

Relevant premises

Another point to consider when evaluating arguments is how relevant the premises are to the conclusion. In a good argument, it is rational to believe the conclusion of the argument *because* of the premises. An argument with a very believable conclusion is still not a good argument if the premises are not really relevant. Consider the following example. Imagine that Camilla is the person making the argument.

The people of Angola dislike being sick. I saw a documentary about the civil war there, and this little fact was one of the things that stuck in my memory.

This argument has the following structure:

- Premise 1 Camilla saw a documentary about the civil war in Angola.
- Premise 2 Camilla remembers the documentary showing that the people of Angola dislike being sick.

Conclusion The people of Angola dislike being sick.

The conclusion is believable, so our only question about this argument is the relevance of the premises. There is no denying that the premises are relevant to some extent. After all, seeing something on a documentary is usually a relevant point to bring up as evidence. On the other hand, the main reason listeners will be inclined to accept the conclusion is that *everyone* dislikes being sick—or almost everyone. It would be quite extraordinary if the people of Angola were otherwise. Many things change with culture, climate, politics, and so on, but whether one likes to vomit, be incapacitated with fever or coughing, or the like, is not something that varies very much! So the argument is not a very good argument. Calling the argument “bad” might be going too far, but one feels inclined to say “C’mon! You don’t really think a *documentary* is the main reason to believe some people don’t like being sick, do you?” When you are left with such a feeling after reading an argument, that may be a sign that the premises, though perhaps relevant support for a true conclusion, are not really doing the main work of making the conclusion believable. If so, then it is probably appropriate to criticize the relevance of the premises, though of course not as harshly as when utterly irrelevant premises are advanced.

There is quite a bit more to say about the evaluation of arguments, but it will have to be postponed until unit 4. For now, it would probably be a good idea to do the following exercise.

Practice exercise 4

Imagine that a person walked into your classroom and made the following arguments to you. First, interpret the arguments and provide very precise reconstructions of them. Then decide whether the arguments are fairly good or fairly bad (to make things simpler, they will be one or the other). If you decide an argument is bad, think about what, exactly, is wrong with it.

- a. The purpose of marriage in our society is to bring together couples who will produce children. Homosexual couples do not produce children. Thus, homosexual couples should not be allowed to marry.
- b. 1% milk tastes a lot like 2% milk, and has (obviously) half the fat. So if a person needs to cut down on fat, switching from 2% milk to 1% can be a good move.
- c. How common is it for a doctor to make a mistake? Consider: a doctor has about the same length of education as a professor, and professors make mistakes fairly often, in giving grades, lecturing, and so on. It is no easier to be a doctor than a professor. So doctors too must make mistakes on occasion.
- d. The development of human-controlled electricity allowed for a great increase in the speed of communication. Before electricity, communication over distances required the movement of mail, and this could be quite slow across mountains and oceans. Shortly after people learned how to control electricity, however, telegraphs allowed people to communicate in seconds, even though separated by thousands of kilometres.
- e. Exposure to the sun can cause cancer. So, if you get cancer, you probably got it from being out in the sun too much.

- f. Human beings have been changing the world for as long as we have existed. So far, these changes have not really hurt us. Thus, we need not worry about global warming.
- g. The tank at the museum contains a fish. But some fish, like the lungfish, are more closely related to mammals than they are to familiar fish like the tuna. As a result, the tank at the museum might not contain a creature that is closely related to the tuna.
- h. Not every book tells a story. For instance, a dictionary is a book but it tells no story. Likewise, a book can explain how to code in a computer language like HTML without telling a story. And in general, not every collection of written ideas needs a plot or characters.
- i. The province of Manitoba would benefit if more tourists came here. One of the distinguishing features of Manitoba is that we have many call centres (businesses that call people to sell them things or survey them). And tourists like to see what is distinctive about an area. It would make sense, then, for Manitoba to set up tours of local call centres for tourists.
- j. Newspaper editorials make arguments, and so do many letters to the editor. Also, newspaper columnists sometimes argue for their views. All this shows that newspapers generally contain a fair number of arguments.